

ALERT OPERATORS TRANSMISSION - ALERT OPERATORS TRANSMISSION  
AIRBUS CUSTOMER SERVICES

SUBJECT: ATA 32 - MAIN LANDING GEAR (MLG) - WHEEL AXLE REPAIR ISSUE.

OUR REF.: AOT A330-32A-3256 REVISION 01 dated 18 October 2012.

OUR PREV. REF.: AOT A330-32A-3256 dated 23 August 2011.

## 0. REASON FOR REVISION

This AOT is being revised to add wheel axle serial numbers in the APPENDIX 1 PART 1 "List of affected part and serial numbers".

Airbus has been notified that an additional number of MLG wheel axles currently in service have been subject to repairs by REVIMA, leading to a reduced fatigue life. The affected part numbers (P/N) are:

- Basic or Growth MLG wheel axle P/N 201272649 (Post [REF 1] or [REF 2])

Also, a wheel axle S/N was incorrectly listed in the previous revision of the APPENDIX 1 PART 1 and has been corrected. This issue was discovered during the axle replacement program. The operator was contacted about this issue.

The revised paragraphs are indicated between **\*\*BEG. REV\*\*** and **\*\*END REV\*\***.

## 1. AIRCRAFT AFFECTED

A330 Aircraft fitted with Basic or Growth Main Landing Gears only.

## 2. REFERENCED DOCUMENTATION

### 2.1 APPENDICES

**\*\*BEG. REV\*\***

APPENDIX 1 PART 1 REVISION 1: List of affected part and serial numbers.

**\*\*END REV\*\***

APPENDIX 1 PART 2: On-wing wheel axle replacement procedure.

### 2.2 REFERENCES

REF 1: Messier-Bugatti-Dowty (MBD) VSB A33/34-32-193 revision01 - MLG - Introduction of a new axle with better corrosion resistance (Basic MLG).

REF 2: MBD VSB A33/34-32-194 - MLG - Introduction of a new axle with better corrosion resistance (Growth MLG).

REF 3: MBD CMM 32-11-74 - Bogie assembly (Basic MLG).

REF 4: MBD CMM 32-12-05 - Bogie assembly (Growth MLG).

REF 5: MBD VSB A33/34-32-300 original issue - MLG - Bogie & Dressing - Axle removal and installation using Enerpac equipment.

REF 6: AMM 32-41-11 PB 401 - MLG WHEEL REMOVAL / INSTALLATION.

REF 7: MBD SL A33-34 A16 - Disposal of scrap aircraft parts.

### 3. REASON

The purpose of this AOT is:

- to advise A330 operators that a number of Basic and Growth Main Landing Gear (MLG) wheel axles have been subject to repairs leading to a reduced fatigue life. All affected wheel axles are listed in APPENDIX 1 PART 1.
- to require operators to perform a one-time identification of all A330 wheel axles.
- to require operators to replace wheel axles listed in APPENDIX 1 PART 1 with a serviceable part in compliance with life limits and timescales as defined in paragraph 4.1.1. The APPENDIX 1 PART 2 provides the procedure to follow for on-wing wheel axle replacement.

#### 3.1 DESCRIPTION

Airbus has been notified that a number of MLG wheel axles currently in service have been subject to repairs by a Maintenance Repair Organisation (MRO) agency, REVIMA, leading to a reduced fatigue life. The affected part numbers (P/N) are:

- Basic or Growth MLG wheel axle P/N 201272638 or P/N 201272644 (Pre [REF 1] or [REF 2]) and P/N 201272649 (Post [REF 1] or [REF 2])
  - Growth MLG wheel axle P/N 201485601 (Pre [REF 2]) and P/N 201485615 (Post [REF 2])
- Between 2002 and October 2010, affected wheel axles have been repaired to repair 2.1 & 2.3 as per [REF 3] and [REF 4] by machining with a blend radius that may have a detrimental effect on the fatigue lives of these parts. The repair blend radius issue is located on the wheel axle centre journal. Reduced fatigue life limits are defined in paragraph 4.1.1. The date at which each affected wheel axle was repaired are shown in APPENDIX 1 PART 1.

#### 3.2 CONSEQUENCES

MLG wheel axle is a Principal Structural Element (PSE) listed in Airworthiness Limitation Section (ALS) Part 1, the failure of which constitutes an unsafe condition. As such the affected wheel axles must be removed from service before reaching the life limits and timescales as defined in paragraph 4.1.1.

#### 3.3 AIM

The aim of this AOT is to ensure continued airworthiness of the MLG wheel axles by requiring operators:

- to identify from aeroplane maintenance records and/or by physical inspection, the part and serial number of all their A330 Basic and Growth MLG wheel axles currently fitted on aircraft and available as spares
- to check if any are listed in APPENDIX 1 PART 1. If an axle is listed, it must be removed from service before reaching the life limits and timescales as defined in paragraph 4.1.1.

Note: It is not possible to carry out any further repair of the affected wheel axles to improve or to restore their fatigue lives. Therefore all the listed wheel axles will have to be scrapped.

#### 4. SHORT-TERM ACTIONS

##### 4.1 PLANNING AND MANPOWER

###### 4.1.1 ACCOMPLISHMENT TIMESCALES

Identification of all A330 MLG wheel axle part and serial numbers should be performed no later than 90 days after this AOT issue date and send to Airbus.

For all MLG wheel axles listed in APPENDIX 1 PART 1, Airbus requires their replacement with a serviceable part before reaching the life limits and timescales specified in (a) or (b) indicated below, whichever occurs later:

a) Before the accumulation of the Landings (LDG) or Flight Hours (FH), whichever occurs first, defined in Table 1, as applicable to the aeroplane type and model,

Table 1 - MLG wheel axle life limit

Affected aeroplanes	- From wheel axle post repair installation
A330-2xx WV02x / WV05x / WV06x	- 4 450 LDG or 17 900 FH
A330-3xx WV00x / WV01x	- 5 050 LDG or 15 200 FH
A330-3xx WV02x / WV05x	- 5 150 LDG or 13 450 FH

**\*\*BEG. REV\*\***

b) No later than 20th of September 2013 without exceeding the LDG or FH, whichever occurs first, defined in Table 2, as applicable to the aeroplane type and model.

**\*\*END REV\*\***

Table 2 - MLG wheel axle LDG or FH not to be exceeded

Affected aeroplanes	- From wheel axle post repair installation
A330-2xx WV02x / WV05x / WV06x	- 7 410 LDG or 29 830 FH
A330-3xx WV00x / WV01x	- 8 410 LDG or 25 330 FH
A330-3xx WV02x / WV05x	- 8 580 LDG or 22 580 FH

Note : the date of repair of the affected wheel axles are identified in Appendix 1 Part 1.

##### 4.1.2 MANPOWER

Manpower, man hours and elapsed time are defined in [REF 5] for the on-wing wheel axle replacement.

#### 4.2 DESCRIPTION

##### 4.2.1 IDENTIFICATION OF WHEEL AXLES

Check the LH and RH MLG forward and aft wheel axle part and serial numbers:

- from aeroplane maintenance records and/or
- physically on aircraft, the P/N and S/N are engraved on one of the wheel axle ends, on the external diameter and outboard of the wheel axle nut thread. To gain access to this area, the

hub-cap and the wheel axle nut have to be removed (refer to [REF 6] AMM task for removal / installation of the wheel axle nut).

If the wheel axle is listed in the APPENDIX 1 PART 1, then it must be removed in accordance with the procedure given in paragraph 4.2.2 before reaching the life limits and timescales defined in paragraph 4.1.1.

If the wheel axle part number/serial number is not listed in APPENDIX 1 PART 1, no further action is required.

#### 4.2.2 WHEEL AXLE REPLACEMENT PROCEDURE

On-wing wheel axle replacement can be performed as per AOT APPENDIX 1 PART 2.

Bogie Beam fitted with affected wheel axles that are not currently fitted on aircraft, i.e. on spare MLG or sub-assembly level, have to be replaced as per [REF 3] or [REF 4] or [REF 5] by a serviceable part before reaching the life limits and timescales specified in paragraph 4.1.1.

All the listed wheel axles and/or out of compliance to paragraph 4.1.1 when removed from service must be disposed and scrapped in accordance with [REF 7]. Scrap certificate as per appendix A [REF 7] must be sent back to MBD.

#### 4.3 SPARES and TOOLING

Spare wheel axles have been provisioned to support this replacement program. Also, on-wing wheel axle replacement tooling kits are available to support this program.

Airbus recommends operators to contact REVIMA to organise the necessary wheel axle replacement including tooling at the following e-mail address:

revima.onwingassistance@revima.fr

#### 5. FURTHER RECOMMENDATION

Airbus recommends operators and MRO agencies to perform all future wheel axle repairs in accordance with the latest revision of [REF 3] and [REF 4].

#### 6. AOT APPROVAL

The technical content of this AOT has been approved under EASA Design Organisation Approval EASA.21J.031.

**\*\*BEG. REV\*\***

This AOT REVISION 01 will be rendered mandatory by an EASA Airworthiness Directive.

**\*\*END REV\*\***

#### 7. REPORTING/ACKNOWLEDGEMENT

Operators are requested to acknowledge receipt of this AOT within 48 hours after receipt to:

Mrs. L. BONNET, SEEL

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Questions about the technical content of this AOT are to be addressed to:

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Best regards.

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